

COMPUTER-AIDED DRAFTING AND DESIGN CADD -- MECHANICAL I & II

OVERVIEW: To provide students with an opportunity to compete in the emerging area of CADD technology. This is a National Event.

I. PURPOSE

The purpose of the TSA CADD-Mechanical event is to provide students the opportunity to demonstrate their abilities with computer-aided design/drafting (CADD). The events are designed to test the CADD skills as they apply to mechanical drafting and design.

II. SCOPE OF THE COMPETITION

- A. This event consists of two parts for mechanical participants. The first part consists of a completed drawing sent to the Conference Coordinator, postmarked by February 1st, the do-ahead/conference registration deadline.
- B. The second part consists of a hands-on competition for finalists. Students may elect to bring their own software and equipment to the event. If software is in question, call the Event Consultant.

III. ELIGIBILITY FOR ENTRY

- A. Must be current TSA state and national member and registered State Conference participant.
- B. This is an individual event. Maximum of eight participants per level, per chapter. Entries limited to one per person.
- C. All drawings must be sent to the Conference Coordinator, postmarked by February 1st, the do-ahead/conference registration deadline.
- D. All drawings within the chapter must be different.

IV. LIMITATIONS

- A. A completed drawing must be sent to the Conference Coordinator, postmarked by February 1st, the do-ahead/conference registration deadline.
- B. A hands-on competition for finalists.
- C. The local advisor must sign off that all work was done in the classroom, under his/her direct supervision.

V. SPECIFIC REGULATIONS

- A. National rules may differ from state rules. Individuals planning on participating in national competition must adhere to national rules.
- B. Each contestant must work independently.
- C. Level I students need to prepare the following as an entry in the CADD-Mechanical competition.
 - 1. Weldment (welding assembly) drawing of a three-part piece.
 - 2. Sectional diagram.

- D. Level II students need to prepare the following as an entry in the CADD-Mechanical competition.
 - 1. An assembly drawing.
 - 2. Four detail drawings of the parts.
- E. Contestants will select their own drawing problem.
- F. Contestants will not place their name, school name, etc., in text on the contest drawing and title block. Contestants will place this information on a label affixed to the back of the drawing.
- G. All submitted drawings must be plotted originals, not copies.

VI. PROCEDURES

A. Registration

- 1. Contest participants must register for the event in accordance with procedures established for conference.
- 2. All CADD contestants must be prepared to participate in the competitive event at the scheduled time.
- 3. All CADD contestants must submit a drawing to the Conference Coordinator, postmarked by February 1st, the do-ahead/conference registration deadline.

B. Competition

- 1. A maximum of 12 finalists per level (depending on facilities) for mechanical events will be selected to compete in the hands-on competition.
- 2. Judges will rate each entry and submit scores to event coordinator.
- 3. Reference material may be used during the hands-on competition, at the discretion of the event consultant.
- 4. The contest will focus on technical drafting skills, and will deal with the productive use of drafting techniques and hardware/software to solve visualization and presentation problems of a mechanical nature. The contestants will be required to solve an industry developed problem using the technology of Computer-Aided Drafting (CAD).
- 5. Preparation of drawings will include proper dimensions and line type selection according to current drafting standards.
- 6. During the contest, the contestants will work independently. Assistance **will not** be given by other contestants, instructors, or observers. Limited technical assistance for computer or software malfunctions may be given by the event judges or coordinator.
- 7. Contestants will be given the same amount of time to accomplish the problem. Everyone will begin at the same time and no one will be allowed to work past the contest conclusion.

8. Each contestant will be responsible for establishing plotting Procedures at the computer and for plotting their work to a plot file on a floppy disk.
9. Judging criteria are general in nature and will be done from plotted drawings. Specific criterion will be based on the demonstration of competency in those elements of accuracy and productivity included in the contest problem.

VII. CRITERIA FOR JUDGING - Mechanical

Accuracy of drawing	30 points
Dimensioning.....	30 points
Completeness.....	20 points
Placement of views.....	10 points
Neatness	5 points
Linetype and Thickness.....	5 points
Total.....	100 Points Maximum
Rules Violation.....	Minus 20 points

The overall score will consist of the score on the submitted drawing (do-ahead), and the drawing produced at the on-site competition. Submitted drawing (do-ahead) will equal 75% of the score. Hands-on competition will equal 25% of the score.